



**HOW TO MOLD A
MIGHTY CHEST**

By GEORGE F. JOWETT

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Look at the heroic deep-barrel chest of Rex Ferris, Jowett-trained pupil pictured on the cover of this book. His all-round development from head to toe, is of the same superb character—a magnificent body that men and women stop to look at and admire. Ferris says, "I am writing to add my sincere gratitude to that of thousands of other pupils, for the wonderful results I have obtained from your Course, and I can safely say you are the best trainer. . . Your methods are marvelous. . . . I owe everything to you."

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Published by
The Jowett Institute of Physical Culture
230 FIFTH AVENUE NEW YORK 1, N. Y.
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MOLDING A MIGHTY CHEST

By GEORGE F. JOWETT

NOT many years ago there traveled through the principal cities of America a huge, powerfully built man who wore his thick, shaggy hair like the mane of a lion. His square-cut face with its flashing, steel-blue eyes immediately arrested attention wherever it was met. It seemed to proclaim the possession of certain desirable qualities in life that people recognized as something they had lost or had never acquired. Each knew these wonderful qualities existed and deep in his heart longed to possess them as all people do who find their greatest dreams have fallen beyond their reach.

Health and power radiated from this Herculean form like the healthful rays of the sun, proclaiming him a disciple of a mighty gospel.

He was.

By natural liking rather than by profession he was a physical culturist. His special aim was to demonstrate the immense value of chest vitality through size and power.

Stripped to the waist and with bared head, he lectured and demonstrated, summer and winter, his marvelous powers. He was in his late seventies when I first saw him but those first impressions still remain forcibly etched upon my mind.

In his early youth he had been afflicted with pulmonary tuberculosis, but careful study and application of exercise transformed him into a Colossus of chest size and power. His chest had a girth of fifty-two inches.

Just think of it! A square, deep, and surging chest under which rolled an abdomen reefed with waves of corrugated stomach muscles.

Despite his age his muscles were firm and pliable.

His skin did not show the slightest sign of shrinkage—signs commonly discernible upon the average man of forty. Smooth as velvet, it encased the massive chest that rolled from his throat like a rocky promontory.

Impregnable, dynamic, vitallic.

His was beyond a doubt, the most perfect and most powerful chest I ever saw as a single physical unit. His feats of strength

were almost unbelievable. As I recall, one of his pet stunts was to burst apart, by chest expansion, a chain hooked around his normal chest. Since those days, others have imitated this feat, but in these later cases, it was only made possible by contracting the chest as much as possible. They lacked the mighty controlled power to break asunder the iron shackles from the normal position.

This man—Who was he?

His name was Wilson, known as the Chest Specialist.

To the medical profession he was always a source of keen interest. Doctors never ceased to marvel, not so much at the marvelous muscular construction of his chest as at the wonderful organic mechanism it contained.

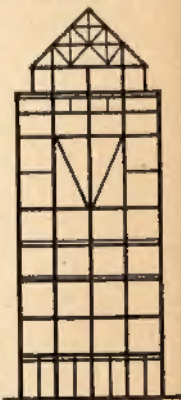
His massiveness, terrific strength and wonderful muscular appearance were the result of his internal organic efficiency. That alone gave him his dynamic energy and vital health. Unfortunately for body builders and exercise fans, charlatanism on the one hand and a selfish desire for personal commercial publicity on the other by a money-mad bunch of fakers, allowed and caused his name and valuable accumulation of knowledge to fade into the background of obscurity.

His amazing success in building such a mighty long-lived physical structure on a frail, disease-wasted body is attributed to the fact that he recognized in the first place the secret of vital physical existence and began building FROM THE INSIDE OUT.

Too many people are impressed with exteriors. They swallow



the idea, hook, line and sinker, that three or four exercises for the muscles of the chest will turn the trick. But it will not, as they later find out. Chest building is like house building. A few days will stick up a flashy looking bungalow but wet days and cold days find it as perforated with weak spots as a sieve. Then comes along a husky wind and it becomes a wreck. Watch the erection of a skyscraper. For days, weeks, months, all you see is an ugly skeleton and you hear people remark, "There is nothing to see," but watch the engineer, follow him through his painstaking duties, see the patience and care he devoted



to the erection of the inside work which in the end is smeared over with a veneer of brickwork that the world terms "gorgeous." But the engineer is not so impressed. He knows what is behind it all. He knows the difference between the inside and the outside.

So do you.

With this belief firmly entrenched in your mind, let us get together and search the inner recesses of the treasure chest of life and enjoy all that we shall learn.

Now let us get doggonc serious.

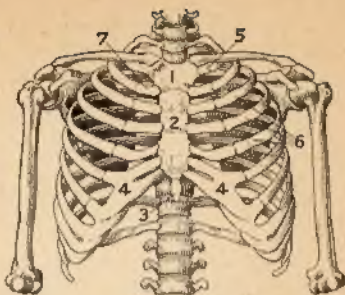
The Chest Box

The chest box, as you know, comprises the bulk of the torso or the trunk of the body. We call it the chest box as a more easily understood name for the costal region. Then, too, nature originally built it for a box to contain all our vital organs. It is bound by half loops of bones of various sizes which are connected to the spine and the breast bone with pieces of gristle, called costal cartilages, that seem to taper from the ribs to their separate bony insertions. It is these gristly connections that make the chest flexible and plastic to chest moulding.

You know all these things must be clearly understood before we can talk about anything else. Without this information explained so you can place each part in its proper place as we discuss it you would lose some of the vital links in the chain of chest building.

The chest box is divided into separate parts according to the peculiar influence of the breathing spaces. These are known as the *Clavicular*, the *Intercostal* and the *Diaphragm* spaces.

The *Clavicular* is the upper part of the chest, deriving its name by reason of its close proximity to the clavicles which are better known as the collar bones. The clavicles are connected with the first joint of the sternum or breast bone and subject to inspirational volition or a movement of uplift. You recognize this when



THE CHEST BOX

1. First section of the sternum and clavicular chest space. 2. Second section of the sternum and intercostal chest space. 3. Third section of the sternum. 4. Diaphragm section of the chest space. Note merging of ribs into the major cartilage. 5 and 7. The gristly cartilage which joins the ribs to the sternum bone. 6. The ribs.

a deep or quick breath is taken as this is generally accompanied by a lifting of the shoulders.

The second space, the *Intercostal* region, is explained by the name itself, "inter" meaning between, and "costal" the chest. This is the chest section between the clavicular and the diaphragm areas. This region is bound by what is known as the "true ribs," and is the largest section of your chest box.

This part is subject to chest expansion and contraction which gives you a fair idea of the strong elastic quality of the costal cartilage that binds the ribs to the backbone and the major part of the sternum.

The interesting part of the costal gristle is its peculiar quality to thicken. It is the only gristle in the body capable of expansion and of contraction and will, under the stimulation of exercise, manufacture additional tissue to promote chest growth. It is unusual in its ability to retain its subtle expansion-contractile forces.

The *Diaphragm*, better referred to as the abdominal space, is the lowest section. Commencing at the lower extremity of the sternum it forms the thoracic arch tapering off into the floating ribs that are buried loosely in the flanks of the side. The actual area is protected by the false ribs. These ribs differ from the true ribs in that they function only at one location—the cartilage that connects them with the spine.

You will undoubtedly find that this area is one of the most interesting parts of the chest box, being subject to many peculiar forms of operation when harnessed to muscular animation. Expansion, contraction and contortion are interestingly registered here to an amazing extent.

Bones of the Chest

The *sternum bone* is better known as the breast bone as I have said before. It is a rather thick piece of flat bone of very coarse structure divided into three parts that knit into each other. It contains remarkable strength and resiliency against pressure. In fact, the word sternum means this—"the frontal bone" or "strong bone." The first segment connects the collar bones with the ribs and fuses with only two pieces of costal bone. In fact, the second rib merges between the joint of the clavical and intercostal section of the breast bone to give better support to its inspirational movements of uplift. The second part of the sternum, the intercostal section, is the major part offering the seat of insertion to the next five pairs of ribs which are known as the true ribs by

reason of their separate individual connection between spine and breast bone.

The eighth, ninth and tenth ribs are termed the false ribs because they lack the individual insertion from spine to breast bone as do the true ribs. These merge into the gristly membranous cartilage of the eighth rib forming a very thick connection attached to the lower extremity of the sternum.

This section is distinctly discernible from the rest, providing the chest with that sweeping effect seen so conspicuously when you draw in the stomach. It marks the dividing line between the chest and the abdomen forming the space known as the thoracic arch.

The third part of the sternum is very minor, existing in a rudimentary condition and tapers abruptly into a short tail that becomes loosely embedded in the abdominal region of the thoracic arch.

And here ends the entire scheme of chest structure. There remain two pair of floating ribs whose only connection is in their origin from the spine. They have no insertion.

Many people assume that the ribs are solely for the purpose of protecting the vital organs. This is only partly right, but if the chest is not taken care of this protective cage-work of bone can react destructively. This fact, when explained, kills the big chest expansion theory. There are thousands of health seekers who have been taught the more chest expansion they can get the stronger, healthier lungs they will possess.

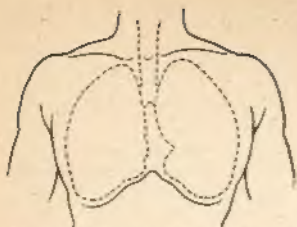
The Lungs

It is quite true the stronger the lungs become the more power they possess for swelling out the chest, but the important factor that must loom before your sight is that our existence is not determined by a highly inflated chest. It is the direct opposite. Prove it.

Are not the lungs voluntary muscles?

Don't they perform automatically day and night their bellows-like duty without any conscious effort of the individual? Sure they do! Like the heart, they perform their work whether you are awake or asleep and that work is performed according to the amount of normal space the chest box provides. If you wish the lungs to do more you must force them. They are not aggressive organs of their own volition.

You never saw a man breathing so deeply normally that his chest became six or eight inches larger with each intake. What would happen to the buttons?



WELL DEVELOPED LUNGS

Note the breadth and great breathing space.

Suppose you have eight inches of chest expansion. What does it prove? Nothing more than if your chest measures 36 inches normally it will, when expanded, swell up to 44 inches. The moment the air is exhaled, then what? Why the chest flops back to 36 inches like a compressed balloon.

I know some will argue back that anyhow their lungs have that much more power. Agreed. But what good is it if your chest lacks the space to provide the lungs with the newly acquired volume for

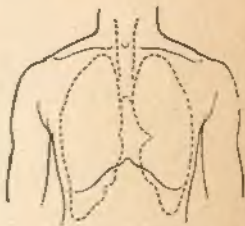
normal use? We do not prove organic health in abnormalities.

Lung volume motivated by large chest expansion is no guarantee of chest strength. If the costal cartilages are so elastic as to swell the chest under abnormal stimulation several inches, it is clear proof they lack solidity or else the chest would not flop like a punctured balloon the moment the air is exhaled. That is what happens.

Breathing exercise will clear out the lungs. It will make them healthier but, unless the costal contingents bolster that gain, you are courting disease. In other words, vigorous breathing exercises alone as a chest builder are dangerous. The only time it is safe is where the person is not interested in a big chest or if he already has a man sized chest.

The natural condition of the lungs is intended to be full, deep and wide with a tendency to shortness; this is only made possible when the chest is big **ALL THE TIME**, not once or twice a day under the influence of vanity or misunderstanding. In its undeveloped and partially developed state the moment the air is exhaled the chest cage, relieved of the internal pressure, actually collapses pressing against the lungs in such a manner that they become long and narrow and only capable of shallow breath.

Then what happens? Ask your doctor. Or better still reason it out yourself. Here are the facts.



WEAK LUNGS

Pressed out of shape by faulty chest construction, causing inefficient breathing. Note the length and narrowness.

The average man and woman use one inch to one and a half inches of lung space for their normal inhalation; the rest remains inert and stagnant, a suitable place for all the debris of the body to collect in, a breeding place for bacilli.

When the lungs are long and narrow, as is the case with a consumptive person, there is less breathing space and more breeding space. His body lacks vitality, the organs are impoverished, the nerves negative and the muscles undernourished. The walls of the chest fall in, the breast bone sinks, and many other things happen that are detrimental to the body.

Your purpose must be to build constructively from the inside out in a series of exercise movements that combine the entire constructional scheme.

In other words you will not rely on deep breathing alone to build up your chest any more than you will rely upon muscle building exercises alone.

Siebert, the great German authority, says: "There is no other part of the body where interior and exterior combine forces so thoroughly for success."

The inside comes first because energy and vitality are necessary to feed and build muscle tissue in order to create growth. It is surprising how fast the muscle will respond to support the inner forces, thus permitting the building of space and size and holding all that is gained.

The Costal Muscles

This brings us to a study of the action of the costal muscles that are capable of fortifying the chest with natural solidity.

When considering the costal muscles you are obliged to study those of the back also because of their great influence on the costal vertebral nerves and because you cannot have a big chest unless you have a pair of broad shoulders, so the broad of the back naturally concerns us as much as the depth of the chest.

This scheme embraces a whole lot of muscles some of which are very tricky. Still we must look upon this scheme as the muscular armor which provides the positive to the negative bony cage work. The important point in muscular creation over the costal area is that it does not exist in the same nature as does the biceps muscle which becomes soft and loses its size and power the moment the biceps are relaxed from contraction. The major muscular life order of the chest is neither in expansion nor in contraction but in solidity. That is, certain major muscles must be built to solidify the chest by shortening their contractive fibres which is their natural purpose, and we must rely as much

upon the back as upon certain chest muscles for this. The muscles coming directly under our notice are the *deltoids*, those triple tongued pieces of muscle that sit upon the shoulders, when fully developed, in a cup-like formation. They come under one root influence but possess triple volition that controls all lifting movements of the arms and shoulders to a point where the arms are raised laterally to straight arm overhead. Where the arms are bent at the elbow the deltoid action is considerably lessened. In fact the moment the hands reach chin level the deltoids become more or less neutralized.

The word deltoid is derived from the Greek word "delta" because the muscular formation conforms to the Greek formation of that word which is like a triangle. These threefold tongues of muscles fit like partly lapping leaves over the back, front and sides of the shoulder.

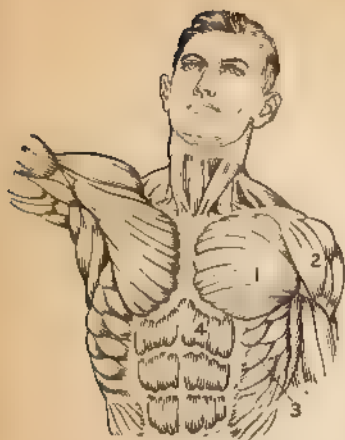
Rarely do we find these fully developed, even on a well-developed exercise fan. This is not altogether their fault as too little attention is devoted to them by teachers of physical culture, but they are, beyond a doubt, the most beautifully shaped muscles in the body of the Super man. No other muscles are so capable of displaying their shapeliness; moreover, there is nothing that sets the shoulders and chest off to better advantage than these semi-spherical mounds of muscles.

Among the Roman soldiers of Cæsar's time, these muscles were more popular than the bicep muscles are today. Soldiers of that period used to accentuate their development by wearing steel shoulder caps. The Centurians gave particular care to the deltoid development of their soldiers while in training and to a good purpose. There were less weary shoulders than we come across today. Incidentally, it is at this point that 90% of weight lifters fall down. The next time you see a bunch of these men together watch them when they stand around in the normal position with hands hanging by the sides. You can actually see the points of the clavicles protrude. What little deltoid development they have is pulled down in a manner that makes them appear as though they have merged into the biceps.

The only athletes who can display deltoids in all the full beauty of their natural shapeliness are hand balancers, shot putters, hammer throwers, and exercise fans who employ dumbbells, and strong men who are good dumbbell lifters.

Rarely do you come across a European strong man who does not have good deltoids because the Continental system is based mainly on training with dumbbells.

The next on our list are the *Pectoralis* muscles which means "breast plates" or "breast armor." These cover the greatest part



THE COSTAL OR CHEST MUSCLES

1. Pectorals. 2. Front deltoid.
3. Serratus magnus. 4. Beginning
of the abdominal muscles from the
thoracic arch.

of the chest, spreading from the clavicles or collar bones to almost the base of the breast bone. Visibly they are divided in two sections, one covering each side of the chest, but constructionally they are each divided in two parts—a minor and a major. Their particular duty is to lift up the chest and influence the costal clavicular uplift in response to the regular clavicular lung breathing action and also to assist in chest expansion.

In designing the pectoralis muscles nature displayed ingeniously her wonderful forethought, so arranging their volition as to be immensely powerful in contraction. Undoubtedly here is where their greatest force is evidenced and the fact that they are so powerful in hugging and crushing movements saves the chest from damage and often from destruction.

If you go back and get the picture in your mind of the rib formation, you will visualize the ribs as connected with their gristly cartilage. Now the length of this connecting gristle is very short. Its contractile-expansive nature is manifest when stretched under the influence of chest expansion. The contractive forces of this gristle act similarly to a piece of stretched round rubber. From the stretch it will immediately contract to its normal size **AND THAT IS ALL**; any other shortening process is in the form of compression under muscular force. There is a point where this ceases and that quickly, and unless nature has provided a protective measure to offset further compression, injury must take place. The pectoralis supply the protective measure. When the critical point is reached they come into action, becoming powerful motors of resistance. To offset further pressure on the ribs they pull the shoulders forward and down in a folding movement absorbing all further resistance even to the point where it is beyond their muscular ability to resist.

The shoulder blades and the pectoralis greatly in this by their natural flexibility and, because of this remarkable pliability the scapular or shoulder blades become known as the "weak joints" They are actually the weakest joints in the body and a good job for us that they are.

This explains to you the natural action of the pectorals and you understand why I say nature here is ingenious. If you pause to consider, it will explain to you another fault common among exercise fans which glaringly displays the anatomical ignorance of so many physical culture teachers and the policy of their courses.

They alone are responsible for the "baseball bicep maniacs," the "chinning fiends," the "balloon chest," and the "dipping donkey." The pectorals are inspirational muscles by nature and crushing muscles by natural necessity. That is, as voluntary muscles they employ themselves in uplift and either as involuntary muscles or under force, to hug or crush.

When studying the muscle scheme we must in all cases concentrate only on natural movements that are voluntary.

Fine looking pectorals are as desirable as shapely deltoids but here is a place where it can be overdone. Overhead movements will develop the pectorals, major and minor, giving the rolling fullness to the upper chest so much admired and so seldom seen. "Dipping" exercise on the floor will develop greatly the major part but too much of this causes the pectorals to be overdeveloped. Then the pectorals minor will hardly exist and the result is the overdeveloped pectorals major draw the shoulders forward causing an unnatural compression upon the chest which interferes with both chest growth and normal breathing, besides giving an unpleasing rounding and droop of the shoulders.

Too many people get the wrong idea about body building. They think if their chest is weak the only thing to do is specialize on the chest but this specialization in 99 cases out of 100 amounts to violent deep breathing or is centered upon "dipping" exercise.

Study of the chest or of any part of the body is not indulged in by the majority of instructors. In many cases the instructors know nothing about anatomy and physiology and in the second place they find it is cheaper and easier to coax the pupil along the path of least resistance.

Specialized training can come only at one time and that is after the body has been put through a test course with a proper noting of reactions, and after the internal organs have been revitalized. Specialized training comes when the body is made ready for it. That is when you get the best results.

Another interesting fact to note about the pectoral muscles is their peculiar fibrous formation. The general belief is muscles have

only one method of volition. This idea is generally based upon what they know about the bicep muscle. In other words a muscle can pull only in one direction. On the whole this is true but we do come across some interesting digressions where the fibrous tissue is so arranged as to give the muscles dual volition. This is more easily understood with the pectorals than it is with some other muscles.

The pectorals originate from along the depth of the sternum bone and along a part of the collar bones. The heaviest bulk of the muscle is the lower part as you can readily see on yourself. This is the major part. The upper is the minor. The entire unit merges into a thick tendinous ligament which makes its seat of insertion on the humerus bone (the bone of the upper arm)—this insertion is close up under the arm pit. For all the world the muscle has the appearance of half a pear wearing its stem.

The major bulk is the farthest removed from the seat of insertion and its origination is mainly along the breast bone.

This all means that the muscular fibres run more diagonally from origin to insertion making the contraction tendencies less dependable upon the arms in ordinary movement. Only when the arms are crossed over the chest is the contraction forcibly stimulated.

The minor pectorals have more direct connection from origin to insertion and having a two-fold origin (clavicular and sternum in the costal clavicular region) the pectorals minor are given absolute muscular control of chest lifting.

You cannot overdevelop the minor section owing to the tremendous bulk remaining with the major and of the two it would be more desirable to encourage minor growth as much as possible. It means more to the lungs and gives that beautiful chest roll from the throat seen so pleasingly on Henry Steinborn.

Our next group is beyond a doubt the most important in chest development. These are the serratus magnus muscles which means the great saw tooth muscles. They derive their name from their saw tooth formation.

These muscles are less often developed than the deltoids. In fact most exercise enthusiasts I have come across know less about how to stimulate growth in these muscles than in any others.

They cover the floor of the greater rib area on each side of the chest in a flat slab of muscle which separates into broad tongues. Each of these lips or saw teeth is strongly seated upon the true and the false ribs in much the same way as the fingers spread from the hand. These are the muscles of solidity that hold every inch of chest gain as they are strengthened by growth.

Unlike the muscles of the arm or leg they do not seek extension. Nature confines the value of the serratus magnus toward powerful contraction. Not in the same way the bicep bunches up—the action is entirely different. The more they contract the more the chest is spread out and lifted, giving both depth and breadth.

If you allow the hand to hang limp you secure a good idea of how these muscles exist in the ordinary undeveloped man, but the moment you stiffen the fingers you visualize the true spreading, lifting action of these powerful serrated muscles.

Three of them have a different seat of insertion. The first three fit strongly upon the upper co-stal spaces diagonally tapering off to a thick strong ligament that is attached to the bone of the upper arm. They cooperate with the other forces of direct uplift and find their greatest influence involved in arm lifting overhead.

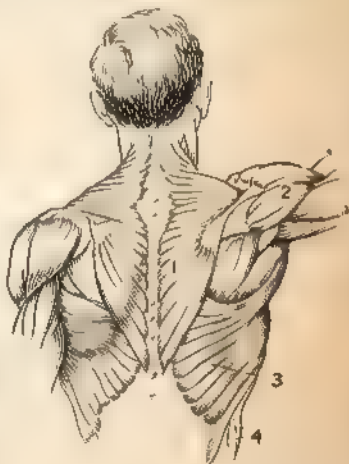
With growth, all of these muscles shorten, the muscles thicken and the fibres become very dense. Even the ligaments and membranous tissue shorten with thickness, making them powerful motors of chest promotion.

Because of these peculiar, muscular qualities which the serratus magnus possess they are better understood as the chest muscles of solidity.

Muscles of the Back

On the back we have the two *latissimus dorsi* and two *trapezius* muscles. The first named mean "big, broad back muscles," forming the bulk of the back. Originating from the spine they taper into a powerful ligament which becomes strongly fastened on the upper arm.

To all weight lifters these muscles are highly interesting. Eugene Sandow was the first to properly understand them. He realized what a splendid shelf each formed for the upper arm to rest upon as the body bends sideways in the opposite direction. It actually supports or



MUSCLES OF THE BACK

1. The trapezius. 2. Back deltoids.
3. Latissimus dorsi. 4. External oblique.

Note the varied directions in which the muscle fibers run. The diversity of direction is what gives the muscles their single, dual or triple action.

props the arms into straight arm rigidity. From understanding the latissimus dorsi the famous lift known as the bent press was born.

*Some call it a trick lift or feat of balance, but that is foolish. If the latissimus is not developed strongly enough all the balance technique in the world would not make a successful bent press lifter. Skill in balance is an asset, but power is the fundamental, though we might safely say the big back muscle lifts or pries up the weight more than does the arm. Arthur Saxon was the greatest demonstrator of latissimus efficiency, raising to arm's length officially a total poundage of 371 lbs. and unofficially 400½ lbs.

The *trapezius* is a peculiarly shaped muscle. It arises from the spine in a long taper then triangles out to fasten on the shoulder blade. From this connection it runs back up the neck and finally becomes attached onto the base of the skull. This muscle is capable of triple action. By contraction it helps the latissimus to aid the serratus magnus muscles to deepen the chest; it also pulls the shoulder blades back. When performing this duty it displays contraction a little differently by bunching up the muscle at the base of the neck into a saucer like depression.

This shows you that the most powerful volition of these two back muscles is in contraction and that this action shortens the back muscles. This shortness is what deepens the chest, squares and spreads the shoulder. For these reasons the back muscles must always be considered in the practice that leads to molding a mighty chest.

The *trapezius* muscles are responsible for the erect carriage, and the latissimus dorsi for widening the shoulders, two very important points which should be kept foremost in your mind.

Altogether you have now gotten a fairly comprehensive picture of the muscles in which we are most interested. We shall later discuss them with the exercises best fitted to encourage their size and strength.

The Thoracic Arch

You will recall when discussing the region of the false and floating ribs reference was drawn to the muscular section bounded by them, sometimes termed the diaphragm but truly named the *thoracic arch*. The thorax is a more general name for the costal areas and the arch formed by the false ribs marks the region I now want to talk about. Boxers understand it better as the solar plexus and the average person refers to it as the pit of the stomach.

It is undoubtedly the most sensitive part of our physical makeup due to the highly organized nervous system located there. A slight punch there will put the undeveloped man out quickly with

considerable gain. Old Bob Fitzsimmons was the one to show the boxing profession a new knockout route via this punch and from that time boxers have known it as the solar plexus blow. The medical fraternity names it the "abdominal brain" because of the knot of bunched nerves located there. We all know it the muscle is not developed within the thoracic arch the stomach is left wide open to danger. Lack of muscular protection causes stomach distension, hernia and prolapsis.

Stand sideways before a mirror, then draw in the stomach, at the same time take a deep breath. This will give you a fine idea of the thorax, and the thoracic arch will display itself very plainly. You can take an inventory of yourself from this position better than from the front. It is quite possible you may not like what you see but that is where your opportunity comes in to determine that those conditions will soon be transformed.

I remember a young fellow who wrote to me about his chest condition and with it he sent a profile picture. Naturally I looked it over and felt he had rightly visualized his thorax with the statement, "It looked as if a steam roller had passed over it." Judging from the actual picture form of his chest he had traced the kind of a chest he wished to have. I replied, "Why not?" The reply fits every one who wishes to improve their thoracic condition and get a superabundance of vitality. You can get the results he got. A few weeks steady practice will show the progress of your physical emancipation. You will imagine some one is inside pressing out the dents and dents forming your upper body much as a molder presses his clay into a noble cast. But above all things don't forget you must commence building from the INSIDE. For a while it will seem you are getting nowhere but you are. Unfortunately one cannot see what is going on inside nor do the results manifest their progress as interestingly as muscular growth, nevertheless it is the only foundation upon which you can safely build.

Get your organs in shape.

Long living lungs are those that utilize every chamber in the respiratory makeup. The lower receptacles are not choked with the debris of carbon dioxide. They do not sag and wheeze with puny inhalation. They function voluminously with the deep rhythm of a bass drum.

Oxygenize your lungs, bathe them with this life extension gas. Saturate them with its purifying element. Without it the blood stream becomes dense with the poison of carbon dioxide, the heart becomes carbonized, and the whole body becomes intoxicated with self poison. Your muscles will tell you that. Look at them. How much life have they got? Are they soft to the

touch? Do they contract powerfully? The muscles are your barometers. They tell you better than I how the sands of life are being wasted. Oxygen means life. We can't live without it. We humans are composed of a complicated fabric that bases its existence on oxygen. It keeps the heart pumping healthily, cleanses the blood stream, nourishes the organs and the muscles with fruitful nutrition. And the only access it has into the body is through the lungs.

Deep natural breathing with muscular animation will draw in the oxygen and transmit it through every cell of the lungs.

The process of inhalation is similar to food being taken into the stomach, only a thousand times more rapid. As the oxygen is sucked into the lungs it is digested, then what remains is carbon dioxide, a corroding gas. Its greatest enemy is oxygen. Oxygen coming in contact with carbon dioxide burns it up, but this is only done when sufficient oxygen is drawn into the system to combat the carbon dioxide.

You can readily see if the lungs are not fully used the balance of carbon dioxide is vastly in excess of the small quantity of oxygen inhaled.

The shorter the lungs are, the less depth the oxygen has to penetrate in normal breathing. It can better spread itself over a surface than it can penetrate the depth, simply because it requires force to penetrate and I have already explained that the organs are voluntary muscles.

The Hindoos pay considerable attention to keeping the lungs perfectly oxygenized, paying most attention to diaphragm breathing. Their claim is that through this they possess all the time a great reserve of oxygen. Somehow I cannot adjust myself to that belief, that is, I cannot believe a superabundance of oxygen in the system **ALL THE TIME** would be beneficial.

For momentary exertion I believe it is right. In fact the system of oxygenizing the heart which I introduced by breathing deeply several times preparatory to making a supreme muscular effort is proven right, but there is a difference. When a man makes a big lift he usually expels his breath with a grunt. His lungs become compressed before he makes the effort; during the lift his strength quickly saps; he gets red in the face and struggles for breath. His face shows the congestion and his heart pounds overtime to drain the system for reserve to shoot to the tortured muscles.

He fails because he lacks fuel. By breathing deeply several times in the first place he does secure a superabundance of oxygen. This will not allow a depression of the respiratory organs. It compels breathing, but the important point is that there is

sufficient oxygen in the system to burn up the excess carbon dioxide created by the supreme effort.

I have proven how breathing at a certain time during a prolonged effort relieves the depression of the organs and congestion of the blood stream, allowing me to finish the struggle without organic strain.

My heart action was noted before and after the effort and the insignificant change registered caused much amazement. But it takes time and a thorough understanding of your muscular and pulmonary mechanism to acquire this control. Yet it comes easily and naturally to the man who builds himself correctly. The best built and organically efficient men I ever met were those who had a real understanding of their bodies. The grave necessity for this is the reason why I take so much pains to instruct my pupils on the mechanism of the body and WHY they do a certain thing.

Once in a while I come across a greenhorn who thinks he knows more than I, or anyone else, and that is invariably the answer to why he never succeeds.

Let us go back. I kind of ran away with myself after I told you of my disbelief of the Hindoo's plan of keeping the super-reserve of oxygen in the system.

Apart from what I have just stated I do not believe super-reserve is good because nature proves too much of any one gas is destructive.

Take several very deep breaths in rapid succession and stand still. You will become dizzy. Too much oxygen.

People who first take up deep breathing experience this, though in their case it does not mean anything. At that stage they cannot absorb sufficient to do anything but good. In fact nature will not allow *naturally* too much oxygen in the body. The moment oxygen is inhaled it is digested and distributed to various parts of the body to cleanse and vitalize. In other words it is used to destroy the destructive elements within the body and is converted into nutritious elements to aid in building structure and in vitalizing the organs, muscles and nerves.

Thus does nature take care of us.

The manner in which the organs restore and build reserve energy is the reason why internal power is greater than external or muscular force.

You may remember recently reading in the papers how the Titanic wrestler, Stanislaus Zybysco, was defeated in India in two seconds by Gama, the champion of India. It seems impossible but it is true. I am acquainted with both men. I have known Gama for many years, meeting him when he belonged to a troupe.

of Indian wrestlers that invaded England about eighteen years ago. At that time he was only the third best wrestler in the troupe and weighed about 182 lbs. The champion of India at that time was Ahmad Bux, a 200 pounder, who was built as impressively as a panther with long, sleek, silky muscles. His younger brother Iman, only eighteen years of age, was the next best man. He weighed 182 lbs. At that time Hackenschmidt, Gotch, Zybyseo and a number of other powerful wrestlers were at their best but none could be induced to pit their strength against Ahmad, the mighty Hindoo. Of this group Zybyseo finally agreed to meet Iman. Imagine the Polish mammoth of 265 lbs in his early thirties, in the prime of condition, against this tall, slim youth from India. It was amusing but the climax was dramatic. Iman threw the huge Pole in two straight pin falls within a total time of 4 minutes, and more quickly still did he dispose of Maurice De Riaz, marvelous Swiss-French athlete. These demonstrations deeply impressed all those who witnessed the feats.

The Indian troupe returned to India and Ahmad Bux and his brother Iman retired into private life. Gama succeeded as champion of India and still holds that place. His recent amazing overthrow of the giant Zybyseo renews a keen interest in the white race as to their methods of training.

These men of India seem to be immune to external physical force. Crushing arms wrapped around their body mean no more than trying to crush with the arms a subway pillar. As a body of men they are as separate from the native of India as day is from night.

Moreover, their methods of training are unknown to the native even as the training methods of the Japanese and Chinese.

It is almost unbelievable to realize that a race of people who are ordinarily small and short as the diminutive Jap and "Chinee" can produce such gigantic specimens of manhood as they do. Rarely do these prodigies weigh less than 300 lbs. and often scale over 400. They look fat in most cases but that is because they have such a great bulk to distribute over their height. They run 6 feet tall and over, but, as you can visualize, that height is short for such a body weight. To touch their muscles is to be surprised. They are hard and as strong as steel and remarkably quick.

No one seems to know how these Mongolians train. Those that know do not tell. It seems they choose these athletes almost from birth. When the news of a newborn boy is announced he is visited and if he shows the quality required by this sect of tight-mouthed teachers he is taken away to a place where there is no admittance and kept there until the day when he emerges to compete, a giant in height and of colossal brawn. The oriental form

of wrestling makes it impossible for our wrestlers to test their respective merits against the yellow champions. My impression of Jap and Chinese wrestlers is that they make great shock absorbers. Rushing at each other like tornadoes they collide with the impact of an army tank charging a stone wall, and they seem to thrive on such collisions.

The East Indian reverts more to our form of wrestling. He is less bulky than the yellow mammoths but more sinuous, contortive and with unlimited endurance. Their methods of training are not so secretive as the Mongolian. I know tremendous concentration is given to the creation of internal strength. The value of it is proven by their astounding capacity to resist physical fatigue. As far as that goes I never knew of any man, white, black or yellow, who was not the supertype of his race from making his greatest consideration internal power.

Arthur Saxon, the greatest phenomenon of the white race in feats of strength, told me time and time again as a boy "Take care of your organs and the muscles will take care of themselves."

On the other hand the East Indian athletes do not forget the muscular side, but the type of muscle they develop is the contrary to what the average white student looks forward to possessing. Yet in strength circles the sleek, silky, smooth appearing muscles are acknowledged as being by far the best. The man with the knotty, bunched-up muscles devoid of any fatty covering is never as good as the other type. My experience has taught me there is less life to these knotty muscles, also the nervous energies stimulating them are too quickly absorbed. Of course, there are exceptions. Hackenschmidt is one. When he tensed his muscles they stood out boldly and clearly defined but in relaxation they smoothed out free of display with the exception of contour.

Apart from the East Indians' rigid form of training they perform rites which strike us as being very queer. They have told me of practices that seem incredible but the men themselves are steadfast in their belief that these rites contain the secret of their success.

Well, here for instance, a close friend of Gama told me that every day for a certain length of time Gama lay submerged under water on the bed of a shallow, swift-running stream. These great gods had taken their celestial baths and into those who could withstand the rigorous rite of the ice cold waters the strength of the gods would flow.

Yes, I can imagine what you say and I can see the grin on your face. My India friend knew the western mind too, for he told me at the time he offered the information "You westerners don't believe. You are too material and can't separate the physi-

cal from the spiritual as both being actual facts." So as far as I am concerned I guess he is right. I am too materialistic and that ends it. On the other hand I can interpret the information differently and form a satisfactory conclusion acceptable to the western mind.

The practice of strong men of toughening their muscles by pouring ice cold spring water out of jugs over the muscles until they are slightly numbed is a practice as old as the hills. This, finished with a fast, dry rubdown, intensely invigorates a man. You really do feel wonderful for it.

They are absolutely not to be compared. Some offer the argument that cold devitalizes. Extreme cold, yes, but no one is required to go to extremes. We know people who live in the north are more hardy and vigorous than those who live in the south, which is sufficient to convince me.

Oxygen is energy. Pack it into every organ, into your muscles and dynamize your nerves with it. Incidentally we must not overlook the fact that the chest contains the vital organs of our existence. The nervous system here is most highly represented. As the sciatic nerve leaves the vertebral column nerve force is not so greatly represented, but the nerve forces from the base of the skull down throughout the chest section of the spine are tremendously conducive to intense vibration. The quality and extent of this vibration depends mainly on your general physical condition which adds to the importance of chest building. But do not get it into your head that a well developed chest will give you big arms and legs. I know of several instructors who make this claim but their own physique does not show proof of the statement.

It is always necessary that the pupil receive expert instruction from a man who knows anatomy, who has proven it on his own body and by safe sound, analytical deduction, otherwise he is courting disaster. That form of training is only one part of the general scheme of training. When a student buys it he only buys one unit which, like breathing exercise, is another unit of the general scheme. On the other hand, a chest fully developed internally and efficiently fashioned contains all the natural elements to produce muscle tissue to form big legs and arms under the stimulation of correct exercise devoted to those parts. It is a part I concentrate upon when building my pupils and another reason for saying that I am the only teacher who offers a complete course of body building that covers every phase, inside and out, of physical development.

EXERCISES THAT BUILD

Some of these exercises will be a revelation to some exercise fans, especially those who have a set opinion that only by tugging and straining on a big weight or against a powerful spring can they get results. To them every exercise is a strength test or a lifting feat. It is too bad so many have that idea. It is their greatest obstacle to success.

I often ponder over the psychology of the various exercise fans I meet. These same boys who believe in straining and tugging I wonder if they believe they should struggle with a 200 lb. barbell in every exercise? I know they do not. It would be rather ludicrous to see anyone foolish enough to make the attempt, especially when you stop to consider how few can raise 200 lbs. overhead with two hands. No one knows better than I. For years I had charge of instruction, teaching heavy weight exercise and I know that most of my pupils, no matter how much their own weight, commenced using a barbell with 25 lbs. The regular scale of weight for the normal individual commencing heavy training is one fourth of his body weight. If he weighs one hundred and forty pounds he would be advised to start the certain exercise that controls the rest, with thirty-five pounds. Rarely is this done. He generally starts lower and he is very soon stuck for no other reason than that he is told to increase the poundage too quickly. He gets to that point when he struggles to perform an exercise. That exercise becomes an exertion—a lift. Is there any wonder so many fail? Personally, the moment the element of strain enters the effort I quit. It is for this reason many have said the limit of my strength has never been judged, which is true; on the other hand my performances in the world of strength still stand head and shoulders over the rest.

Consider what strain means—A congestion of the blood stream, a complete depression of the organs, the heart action is encumbered and the lungs are compressed of air. It is not logical. No one enjoys a feat of strength better than I, but a demonstration of strength is one thing and exercise is another.

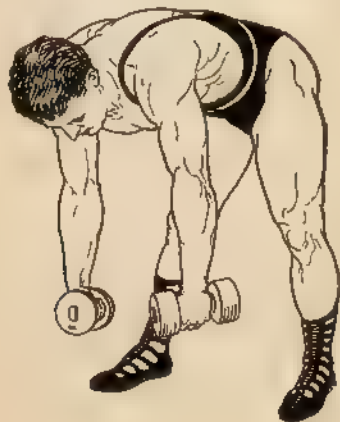
Try this for the trapezius, deltoids, and serratus magnus muscles.

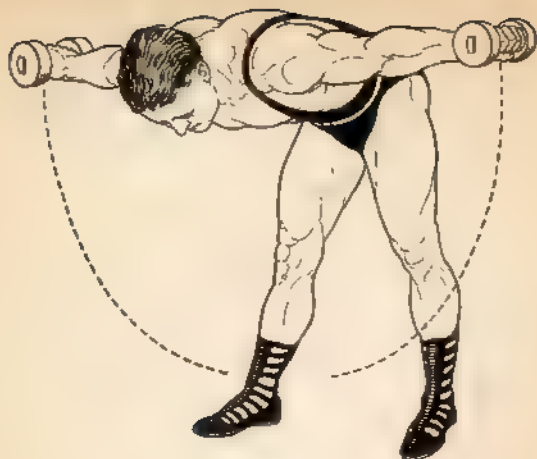
EXERCISE ONE

Take in each hand a ten or fifteen pound dumbbell and stand with the feet about eighteen inches apart. Now, bend over from the waist with a flat back, allowing the hands to hang limply, holding the dumbbells about six inches from the floor. See that the knees are locked and kept so throughout the exercise.

This is the original position. You are all set to go. Breathe in deeply and at the same time raise the dumbbells out sideways, slowly and in a straight line. Do not let the arm travel backwards and do not raise or round the back. The body must be kept rigid, with the arms providing all the resistance.

This exercise is not completed until the arms are in a straight line level with the shoulder. At that point pause for the count of two and slowly lower, breathing out as you do so. Start off with six repetitions and work up to twelve. You will find plenty of bodily action before you get up to twelve counts. But do not make the mistake of swinging the dumbbells. Keep the arms stiff and as you raise them reach out giving the arms all the extension possible as shown in the figure on page 22. This is important.





EXERCISE TWO

You will now take in the right hand a dumbbell loaded anywhere between 25 and 50 lbs. It is not advisable to use a heavier weight unless you are extremely strong. The disadvantage of employing too much weight is not in the possible danger but in the fact that such a heavy weight will not permit you to perform the exercise correctly.

Stand erect with the feet spread wide apart and the dumbbell held at the shoulder and the disengaged arm held across the small of the back. Bend over to the left side as far as possible bending the left knee but not the right—that must be kept straight throughout.

As you bend to the left you begin to push the dumbbell up to arms' length. Keep it there as you come back to the erect position. This is a splendid exercise for the latissimus and serratus magnus.

Practice the movement nine times with each hand and work up to sixteen repetitions.

This illustration shows the position of the exercise when half way through. The next half, coming erect, calls strongly into play the muscles of the side. The arm behind the back is the



simple part that makes this exercise superior to any other arm position. Be sure to keep the lifting leg straight only bend the other. You will find this exercise a dandy in more respects than one

EXERCISE THREE

This exercise is called the Two Arm Pull Over. The great benefit within it lies in the manner it causes the lower rib box to spread. All the effort is thrown on the diaphragm and intercostal section, but mostly upon the first named

To commence the exercise, lie flat on your back with the body stretched to its limit on the floor. Place the dumbbells at arms' length behind the head and try to hold the small of the back as close to the floor as possible. If you allow it to raise too high, much of the value will be lost.

From this position breathe in slowly, and evenly, and deeply and at the same time allow the arms to raise the bells in circular movement from the floor. Keep the arms perfectly straight and when the bells are past the level of the face in movement of descent begin to breathe out. Do not wait till you have lowered the bells to breathe out, begin the moment the bells are beginning to lower.

The final stage of this exercise will be where the arms are held straight alongside of the lower body. From that position you will start your second movement, making another complete half circle until the bells are lowered to arm's length behind the head. During the process of this movement breathe in, and only breathe out when the bells touch the floor behind the head. When you start the next step breathe in and out as formerly stated.

Commence this exercise with 10 lbs. in each hand and with six movements and work up to eighteen repetitions by adding one movement every third practice night, but use good judgment when eighteen counts are reached. By that I mean, do not sink yourself by using too much weight



EXERCISE FOUR

Here is the greatest chest exercise ever given to the public. The whole chest gets a workout with it, and the results are unequalled. First secure a low stool or box, not over eighteen inches in height, and then lie with the broad of your back upon it. Do not allow the stool to be too far down the back; in fact, the higher up towards the line of the shoulders, the better.

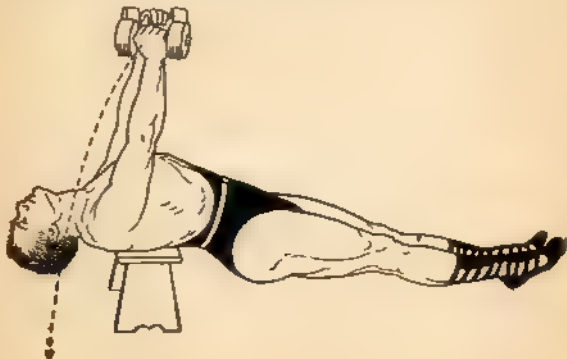
Thrust the legs out straight and keep the body straight, and hold the bells at arm's length over the face. From this position start by lowering the bells down sideways, level with the line of the shoulders until the bells touch the floor. As you do so, breathe in.

From that position return to the original position and breathe out. Keep the arms perfectly straight all of the time and make the movements a continuous affair. That is, do not pause at any time during the exercise from beginning to end.

Not for one moment must you allow your body or legs to sag, if you do you might as well quit.

Start with 5 lbs. in each hand and six movements and work up to eighteen by adding one repetition every third practice night, after that commence over with the original count.

Practice the exercise slowly and concentrate strongly.



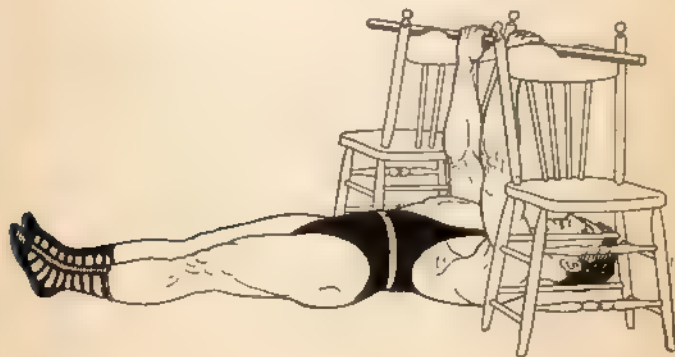
EXERCISE FIVE

Place two chairs the width of your shoulders apart facing back to back. Across the chair backs place a broom handle or a piece of pipe. Now you are all set to go. Lie flat on the back, then reach up with the hands and grasp the pipe or broom handle. Keep the body perfectly straight and by the strength of the arms draw yourself up until the bar strikes the chest. Do not allow the heels to leave the floor. This is similar to chinning the bar but the different position calls into effect more powerfully a back spreading action, that is, if you do not bend the back throughout the exercise.

Practice this exercise at least six times and add one repetition every third practice night.

This exercise can be varied to a good advantage. Notice how the illustration shows the exerciser to have taken hold of the bar. He has the palms of the hands facing. As a variation, change the hand grip so that the palms of the hands are facing in the opposite direction. This will demand more action from the muscles on the inside of the forearm.

As a third variation take your grip with the palm of one hand facing and the palm of the other hand facing away in the opposite

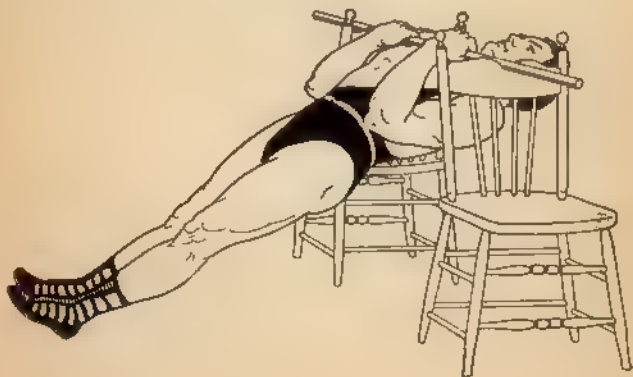


direction, then chin from this position. The muscular action will be different again.

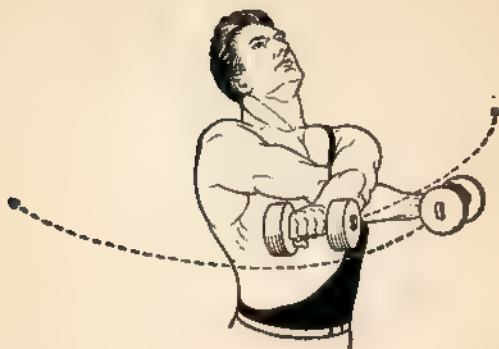
If you wish to turn this exercise into a test of strength, do not see how many times you can raise yourself, but see how slowly you can raise by counting from the moment you begin to lift to the time your chin touches the bar. For instance, if you acquire twenty counts at the first attempt, see if you can do it in twenty-five counts the next time you make your test. The slower you are able to perform this exercise the more strength will be required. It really is an admirable test.

Another form of strength test is to chin yourself with as few fingers as possible. An interesting fact is you will do as well chinning yourself with the middle finger as you will with any of your three fingers. Try it.

One thing I must warn you against while practicing this exercise and these feats. At no time must you bend the body at the waist or drag the heels toward the chairs. Either practice shortens the distance between the chin and the bar and that digression takes all the good out of the exercise.



EXERCISE SIX



Stand erect with arms held at full stretch in front holding in each hand a five- or ten-pound dumbbell. At no time must you allow the body to bend backward but tense the thigh muscles strongly in order to keep the knees locked to support this stance.

Breathe in deeply and cross the arms straight over the chest as far as possible. You will find a tendency to allow the chest to contract but you must resist this by holding the chest high and by breathing deep, this gives better play to the chest muscles.

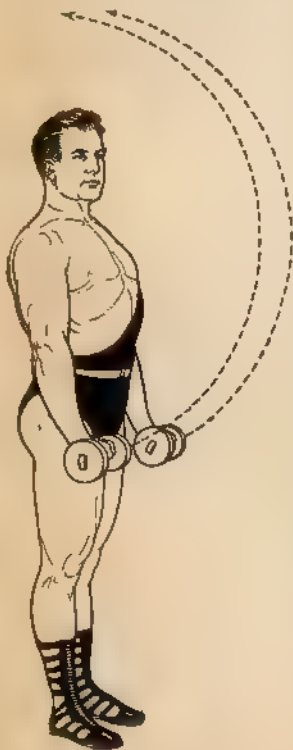
As a rule this exercise is practiced in the one way, that is, each time the arms are crossed the exerciser is apt to always allow the same arm to cross atop of the other. If you watch yourself in a mirror you will see the top arm causes a greater contraction of the corresponding pectoral, which means that muscle is getting more action than the other. My advice is to alternate the movement. If the right arm crosses on top of the left first, the next time you allow the left arm to cross over the right arm.

Practice this exercise at least nine times, adding one repetition every third practice night.

EXERCISE SEVEN

Here is a good exercise that calls into operation nearly every muscle in the body and particularly those who are interested in the latissimus dorsi, serratus magnus, pectorals, deltoids, and the broadening of the thoracic arch

You take the erect position with heels together, arms hanging by the side holding the same weight dumbbell in each hand as used in the last exercise. From this position slowly raise the arms straight forward with the palms facing down. Continue to raise them until they reach the overhead position. In other words the arms are employed to describe a half circle.



Do not lean backwards, neither swing the dumbbells in order to secure momentum. The motion must be slowly executed to arm's length overhead and back to the original position.

You will find six movements sufficient and maybe one repetition added every third practice night may be too much. Let your progress decide this for you.

This exercise was a favorite of the great Louis Cyr. He could play with a 70 lb. bar, and on it, hanging by the hocks, a 100 lb. boy. When the bar with its human object came level with his shoulders (which is the most difficult point in the exercise) he would pause, hold the position without any apparent effort, then slowly lower.

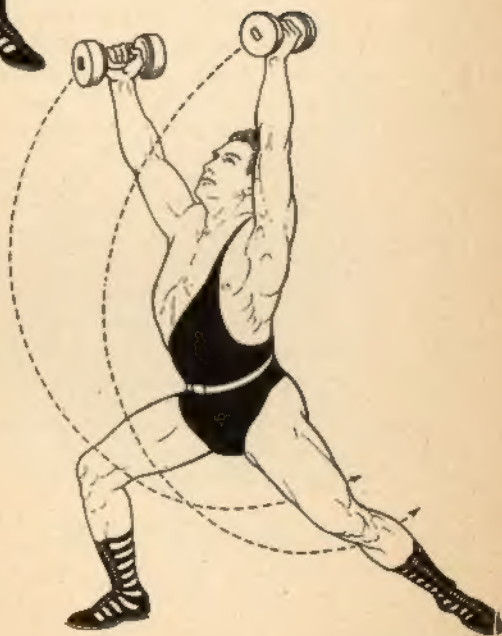
EXERCISE EIGHT

This is meant to spread the shoulders and if you do it right you will feel the strong pull on the shoulder blades.

Place the dumbbells on the floor between the legs using a poundage anywhere between 15 or 25 lbs. each. Grasp them securely but let the shoulders hang loosely. Bend the knees and with a sharp swing hurl the weights to arm's length in front. As they lose their momentum allow them to descend and travel between the legs past the heels as far as possible. You will feel a direct pull on the shoulders that will be accentuated as the bells go forward and increased with every swing. The main object is to allow the arms to swing with a free pendulum motion. Practice this twelve times and repeat two repetitions every third practice night.

These few exercises will do wonders for you if you practice regularly and conscientiously. Some cases require different treatment of a specialized order, that is where the value of personal instruction comes in. I base my successful teaching on this. By inviting a pupil to constantly cooperate with me I am enabled to better check up and keep changing the exercises so he is given the best results. Anyhow I am a great believer in changing exercises. I believe in developing the muscles from every angle. In fact it is absolutely necessary if the muscles are to be made efficient in every act of volition. The trouble with many exercise fans is they stick to one set of exercises which become single track. Out of that one particular groove their muscular power is shamefully negative.

There is no reason for one to have a pigeon chest or a sunken sternum—no reason at all for collapsed costal walls or prolapsed stomach. The more you exercise the more will the chest uplift and widen, the shoulders broaden and the chest deepen, the greater spread will the thoracic arch take on. Dynamize your lungs with volcanic life. Stimulate the organic life and nerve forces. Don't be a one-cylinder man. Keep them all hitting. Mold for yourself a mighty chest and vitalize your physical existence with shape, size and manliness.



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